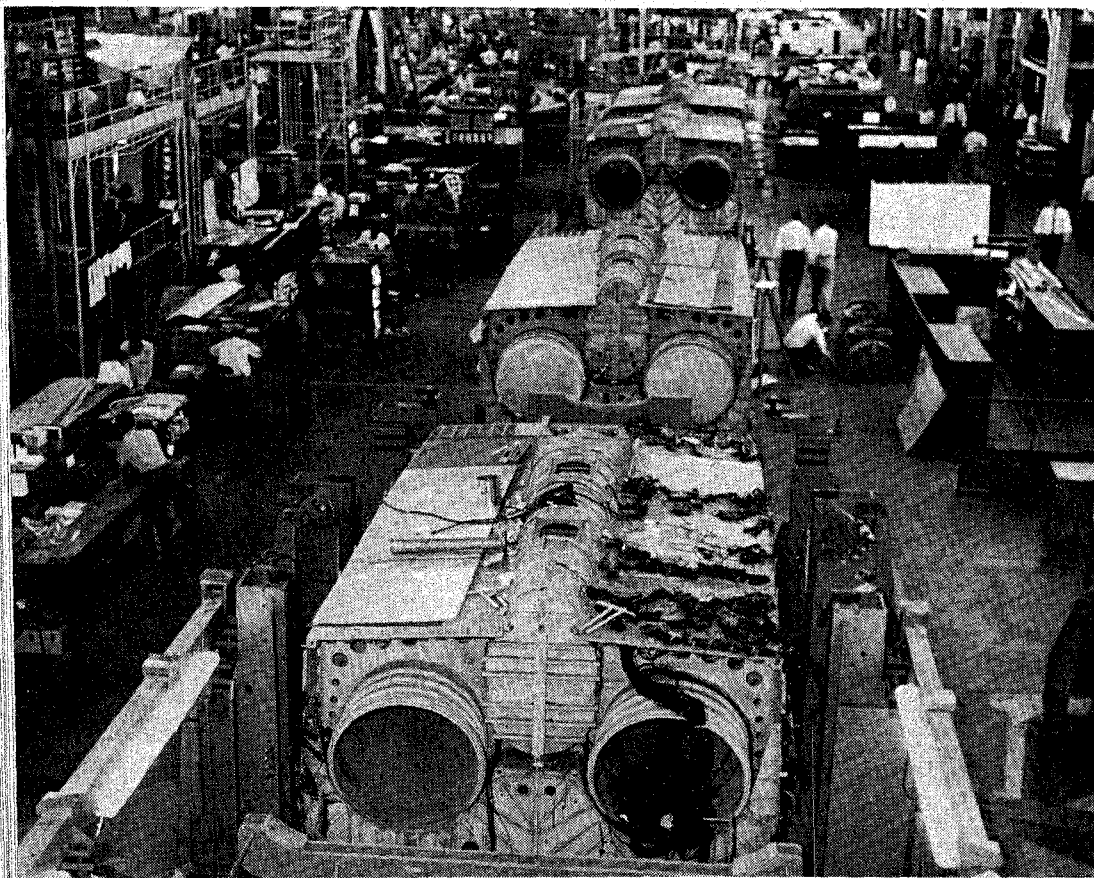


## Commitments for NATO, NORAD



**ORDER PLACED.** No official confirmation at press time, but current reports indicate a 40 aircraft order for Avro's supersonic CF-105 Arrow. Top, part of the production line at Avro's Malton plant showing completed centre section units. Lower, the first Arrow being rolled into the pre-flight hangar.



# Keystone to Industry's Development

Missile production for the Arrow weapons system takes on definite outlines  
Commercial operators continue fleet consolidation, in bid for new traffic

By Ernie Hemphill

1958—year of decision!

Leaders of almost any other industry, in a similar situation, might find themselves reaching for the panic button.

But for the men who direct Canada's aviation industry, where a company which does not find the necessity for major decisions an almost constant bedfellow is a company which soon finds itself left behind in the vital technological race, 1958 presents no really new causes for alarm.

To be certain, the old problems have been accentuated.

J. G. Notman, president of Canadair Ltd. of Montreal, spelled it out in his report as retiring president of the Air Industries and Transport Association.

"The aircraft industry," he stressed, "has always been faced with a variety of problems of a military, political and economic nature. This coming year will be no exception."

## New Challenge

Making reference to Russia's satellite program, Mr. Notman termed it "a challenge to our technology, but perhaps more than that, it is a challenge to our complacency, and should shatter completely the notion that technological superiority in the cold war is necessarily the private preserve of the West."

But he also cautioned against the "school which suddenly declares obsolete all other defense plans and preparations that have been made till now, including our programs for manned aircraft and our radar warning systems."

What had happened, he declared, was that the task of air defense "has

now become more differentiated, not necessarily superseding previous programs, but requiring new and supplementary solutions to new "problems."

The basic mold for the future of the aviation industry in Canada has already taken shape. It will be clearly defined in the months to come by the manner in which the government of the day at Ottawa, through its new full partnership with the government of the United States in the North American Air Defense system and its continuing participation in the North Atlantic Treaty Organization, moves to meet the challenges to national security.

Defense Minister George R. Pearkes, VC, has given definite indications as to the course which he and his advisers are charting.

The minister has put himself on record on a number of occasions to the effect that piloted bombers still represent a major threat in any attack on North America. To meet this threat, Royal Canadian Air Force squadrons must be equipped with interceptors capable of bettering performance of the manned intruders.

The major consequence of this line of reasoning is the reported government decision to go ahead on production of Avro Aircraft's CF-105 Arrow all-weather interceptor.

## Arrow Order

Rumors of a definite order for the supersonic Arrow have been prevalent throughout the industry for some weeks now. The latest information is that orders have been placed for components to build 40 of the aircraft.

It is important that this development be examined in its NORAD context.

NORAD represents the complete integration of Canadian and United States air forces for the defense of

North America. The two forces, for all practical purposes, become one.

The next logical step, and it is not unreasonable to assume this has been given consideration, is to standardize procurement for the integrated defense forces.

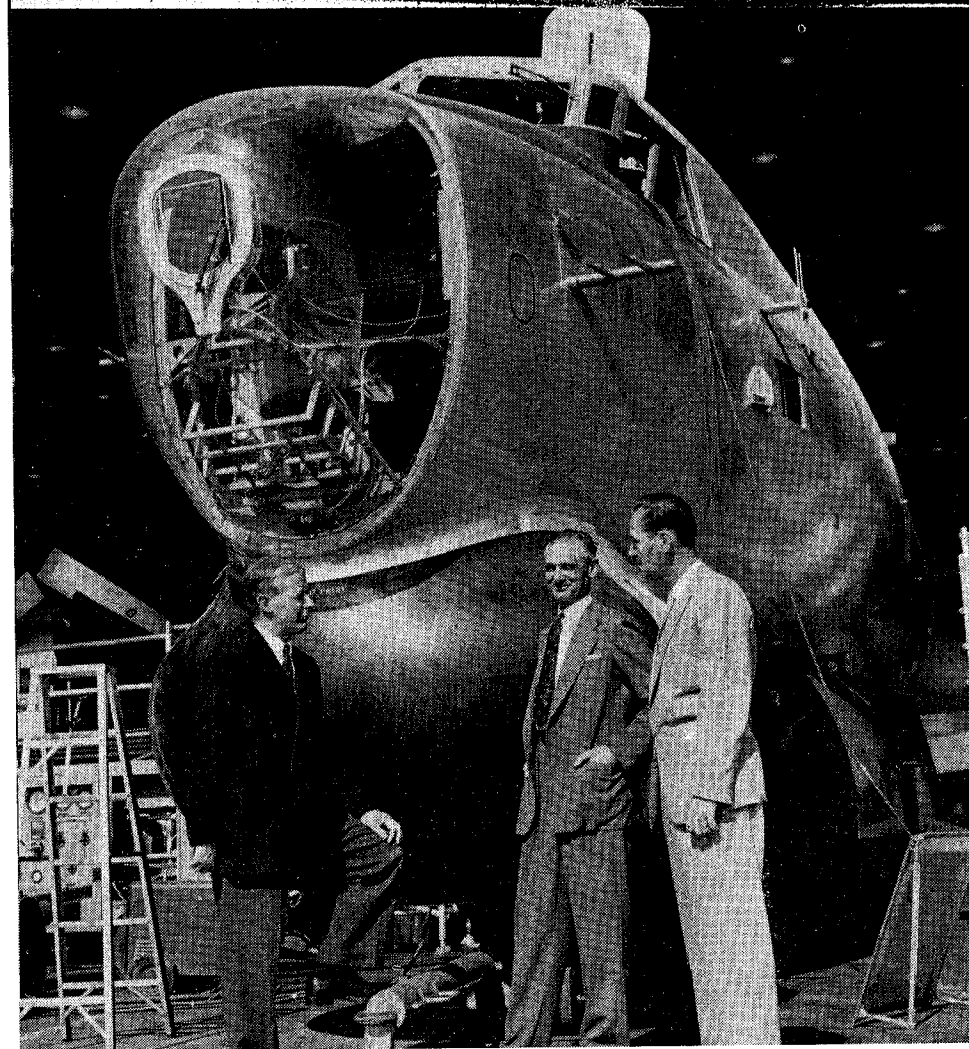
Defense planners would be less than realistic if they did not seek to confine effort and expenditure toward the best available equipment to do the job required.

A decision to go ahead on the CF-105 Arrow is a good indication that this Canadian-designed "last of the manned" interceptors is at least an equal bet with other similar projects for widespread service in the NORAD system.

Orenda Engines Ltd.'s contribution to the over-all Arrow program in development of the Iroquois turbojet was a major milestone in the history of the aviation industry in Canada and is a prime factor in the high regard in which the advanced project is held. Generally recognized as one of the most powerful engines at its present stage of development, the Iroquois bids fair to win Canada additional world markets, as evidenced by the licensing agreement concluded during the year with the Curtiss-Wright Company in the United States.

Further, the acceptance of Canadian CF-100s and Sabres by Canada's NATO allies over the past year shows that our industry is now accepted as a reliable source of first line military aircraft. There is no reason to believe that this confidence will not be extended to future requirements, if our industry can maintain its past standards.

Of equal importance with defense against manned enemy bombers, is



the problem of dealing with missile carrying submarines. Development by Canadair Ltd. of the Argus, maritime reconnaissance version of the Bristol Britannia, was designed specifically to meet this threat.

Now in production for service with the RCAF's Maritime Air Command, the ARGUS has attracted wide attention from countries which must also deal with the submarine-missile combination. Chiefs of staff of a number of NATO countries, including the United States, have inspected the Argus weapons system in detail and are known to maintain an active interest in the project.

The submarine threat also continues to be reflected in the well advanced plans for re-equipment of the Royal Navy's anti-U-Boat squadrons which will be operated off the recently acquired new carrier, HMCS Bonaventure. Production on improving versions of the CS2F-1 Trackers under a widely sub-contracted order placed with de Havilland Aircraft of Canada is to continue over the next few years.

Of growing importance to the aviation industry in Canada is the government's recent broad outline of changes contemplated for this country's ground forces.

#### Army Requirements

Defense Minister Pearkes has laid major stress on increasing the mobility of the country's Army groups.

One of the more significant Canadian projects in this regard is development of the twin-engined, short-take-off-and-landing Caribou which de Havilland Aircraft expects to have flying by next summer.

In this undertaking, too, the market is far from being confined to Canadian requirements. Consistently a good de Havilland customer as a result of the fine record established in service by Beavers and Otters, the United States Army has taken an interest in the Caribou project from its outset and has gone so far as to place an evaluation order for five of the aircraft off the drawing board.

There are indications that the

(Continued on page 72)

**CANADA'S LARGEST.** Canadair's Maritime Reconnaissance version of the Bristol Britannia, to be produced in both military and commercial transport configurations, is arousing wide interest. Top, the Argus production line. Lower, in front of the fourth production aircraft are members of the British Imperial Defense College, left to right, Rear Admiral W. G. Crawford, RN, Harry McKeown, Canadair's Quality Control Director, and Col. Reginald Leathes



# Nato-Norad

(Continued from page 26)

Canadian Army's air transport requirements extend beyond what could be met by an aircraft of the Caribou's capabilities. The Army during 1957 formally established a helicopter evaluation unit to continue exploration of their use in providing the "increased mobility" stressed by Defense Minister Pearkes. The minister has also made other references to steps being taken to increase further our military air transport capabilities.

This latter will no doubt be reflected in a move to boost the carrying capacity of the RCAF's Transport Command, which already has plans for re-equipping with the CL-44 military transport versions of the Bristol Britannia to be turned out by Canadair.

The significance of this increased emphasis on military air transport on the general prospects of the Canadian aviation industry is reflected in the announcement by Canadair Ltd. of its conclusion of agreements with Bristol Aircraft Ltd. of England covering production and sale of the

CL-44C Canadair Liner a commercial turbo-prop aircraft, detailed as one of the largest transports in the world.

It is doubtful that Canadair could have made its way back as a major contender in the commercial airliner market without following the sequence from military to civil version. This same sequence is readily evident for de Havilland's Caribou project, which has all the earmarks of a successor to the Beaver and Otter in serving Canada's still vital bush routes.

## New Project

Canadair Ltd. is also using military market potential as an avenue to another possible new civil outlet. The company announced late in the year its plans to go ahead on production of prototypes of the CL-41 *ab initio* jet trainer, a vehicle which can readily be converted to a four-place executive transport configuration.

Power plant requirements for the CL-41 have opened up potential markets for new low thrust, light weight jet engine development by Canadian firms. Both Orenda Engines Ltd. and Canadian Pratt & Whitney have indicated interest in the project.

The light jet engine study being carried out by Canadian Pratt & Whitney marks that company's first venture into the turbine power plant field. CP&W has itself well established in the international market on piston engine production, turning out replacement R-1340s and manufacturing the R-1820s which are supplying the power for the Royal Canadian Navy's CS2F-1 Trackers, as well as taking over from U. S. Pratt & Whitney the responsibility for providing spares on P&W piston engines throughout the world.

## Missile Pattern

Strengthening reports of orders for the Arrow is the evidence that Canadian production of an air-to-air guided missile is finally swinging into gear.

Defense department sources indicated some time ago that the U. S. designed Sparrow 2 missile had been chosen for production by Canada's missile facility. The original proposal was to have Sparrow 2s available for armament on the Mark 6 version of the CF-100.

There is evidently still a slight possibility that the Mark 6 CF-100 project may be continued on a non-production, experimental basis, or that Canadian interceptor squadrons will be missile-equipped before they receive CF-105s through a modification on the Mark 5 CF-100s now in service.

If this were the case the missile production program could be expected to be brought along at an accelerated rate.

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