

.....DIEFENBAKER ON DEFENCE POLICY.....

Following is the text of the statement made on September 23 by Prime Minister John Diefenbaker in relation to the changes planned by the Government in the matter of Canadian air defence policy.

IN RECENT weeks the Government has fully reviewed the Canadian air defence program in the light of the rapid development that has taken place during the last year in missiles for both defence and attack. In doing so it has had detailed advice from its military experts on the nature of attacks on North America that might be expected should a major war take place. A number of changes in the air defence program now have been decided upon.

The Government has concluded that missiles should be introduced into the Canadian air defence system and that the number of supersonic interceptor aircraft required for the RCAF Air Defence Command will be substantially less than could have been foreseen a few years ago, if in fact such aircraft will be required at all in the 1960's, in view of the rapid strides being made in missiles by both the United States and the U.S.S.R.

Service In 1961

THE DEVELOPMENT of the Canadian supersonic interceptor aircraft — the CF-105 or the Arrow — was commenced in 1953, and even under the best of circumstances it will not be available for effective use in squadrons until late in 1961. Since the project began, revolutionary changes have taken place which have made necessary a review of the program in the light of anticipated conditions when the aircraft comes into use. The preponderance of expert opinion is that by the 1960's manned aircraft, however outstanding, will be less effective in meeting the threat than previously expected.

It has therefore been decided to introduce the Bomarc guided missile into the Canadian air defence

system, to be used in defence against hostile bombers. This is a long-range anti-aircraft missile guided from the ground with the aid of the same radar system as that used in guiding interceptor aircraft. It can be used with either a conventional high-explosive warhead or a nuclear warhead.

Heartland Protection: Two Canadian bases for firing such missiles will be established in the general Northern Ontario and Quebec areas. The use of this missile will be in accord with the approved policy of NORAD for the air defence of the North American continent.

Other Bomarc bases may be located in Canada in the later development of the program, but priority is being given to the two mentioned. Most of the industrial areas in Canada considered to be potential targets of air attack will be within the defensive range of the two projected Bomarc bases or others under NORAD control and located in the northern United States.

Negotiations are under way with the United States to work out arrangements for obtaining these Bomarc missiles and the necessary equipment for maintaining, testing and launching them. Discussions will also be held on the best way for Canadian industry to share in the production programs related to such missiles and associated equipment.

Pinetree Extension: The Government has also approved the extension and strengthening of the Pinetree radar control system, which was constructed, and is being operated, jointly by the United States and Canada. Several additional large radar stations will be constructed. These and the existing stations will be supplemented by a considerable number of small intervening stations.

In order that the Pinetree radar system may be able to deal more effectively with the increased speed and numbers of aircraft to be controlled and with the introduction of the Bomarc guided missiles, the government has decided to install

the SAGE electronic control and computing equipment in the Canadian air defence system. This will be integrated as a part of the North American SAGE system under NORAD.

Discussions are being initiated with the U.S. authorities for the supply of the large electronic computers needed for the operation of this system and to arrange for Canadian industry to share in the production of the equipment required for the expansion of the radar network and the introduction of these semi-automatic communication and control operations.

Old Soldiers: The nine Canadian air defence squadrons already equipped with the CF-100 aircraft will continue in their present role pending their replacement with Bomarc weapons or squadrons with later types of aircraft. The whole complex of missile and aircraft defence will be worked out, as changes are made, on an integrated North American basis under NORAD operational control.

Not Now

IN VIEW of the introduction of missiles into the Canadian air defence system and the reduction in the expected need for manned, supersonic, interceptor aircraft, the Government has decided that it would not be advisable at this time to put the CF-105 into production.

The Government believes, however, that to discontinue abruptly the development of this aircraft and its engine, with its consequent effects upon the industry, would not be prudent with the international outlook as uncertain and tense as it is. As a measure of insurance with present tensions as they are, therefore, the Government has decided that the development program for the Arrow aircraft and the Iroquois engine should be continued until next March, when the situation will be reviewed again in the light of all the existing circumstances at that time.

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rotor beat and a drone from its twin rear-shaft drive Napier Elands.

The climax of the Westland circus is always a line abreast hover in front of the President's tent and a follow-my-leader to the dispersal area. Westland claims that the PV Westminster can fly at full load on one of its Elands and that it cruises at 115 mph.

CARIBOU

(Continued from page 20)

level, low speed operations in forward areas. The inner wing flaps may be lowered 40° while the outer pair go down a maximum of 30°.

The variable incidence horizontal stabilizer has a range of travel of 17°.

On the Bottom: The fuselage is of rugged construction intended to afford a high degree of safety for passengers and crew in the event of an emergency touchdown. The beams on which the cargo compartment floor is carried serve as longitudinal skids in the event of a belly landing. Vertical and side crash loads are absorbed by the bulkhead at Station 138 and by massive

COMING EVENTS

October 28-29—AGARD Eighth General Assembly, Copenhagen, Denmark.

November 3-5—AITA Annual General Meeting, Chateau Frontenac, Quebec City.

November 6-7—IAS National Specialist Meeting on Dynamics & Aeroelasticity, Texas Hotel, Ft. Worth, Texas.

November 19-21—Annual Meeting Aviation Distributors & Manufacturers Assoc., Statler-Hilton Hotel, Dallas, Texas.

December 3-5—National Symposium on Global Communications, Colonial Inn—Desert Ranch, St. Petersburg, Florida.

January 26-29—IAS Annual Meeting, Sheraton-Astor Hotel, New York.

February 23-24—CAI Special Meeting, 50th Anniversary of Powered Flight in Canada, Queen Elizabeth Hotel, Montreal.

frames located at the front and rear wing spars and at the rear of the cabin.

The Caribou's powerplants are fully interchangeable, being identical in all respects from the firewall forward. A complete powerplant comprises the well-known and proven Pratt & Whitney R-2000-7M2 engine (1,450 bhp @ 2,700 rpm @ 2,800 ft. for take-off), three-bladed Hamilton Standard propeller with automatic feathering, reduction gear, accessories and cowl-

ings. Cowlings are of the petal type to facilitate engine inspection and maintenance.

Exhaust augmentor tubes are fitted. Prior to passing through the augmentors, the exhaust is used to operate two ejector pumps which provide improved engine cooling.

DIEFENBAKER

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Although both the Arrow aircraft and the Iroquois engine appear now to be likely to be better than any alternatives expected to be ready by 1961, it is questionable whether in any event their margin of superiority is worth the very high cost of producing them by reason of the relatively small numbers likely to be required.

Dead Sparrow

AS A FURTHER consequence of the reasons given above, the Government has decided that it would be clearly unwise to proceed with the development of a special flight and fire control system for the CF-105 aircraft



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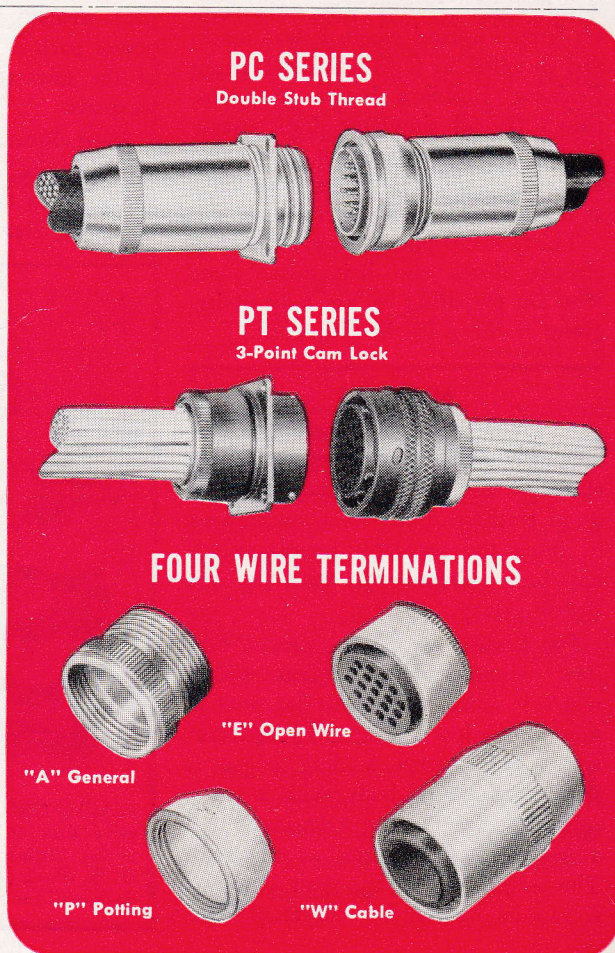
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known as the Astra and of a special air-to-air missile to be used as its armament known as the Sparrow. The contracts for the development of the Astra fire control system and of the Sparrow missile now are being terminated.

In the meantime, modifications of the CF-105 will be made during its development to permit the use of a fire control system and weapon already in production for use in U.S. aircraft engaged in North American defence.

The important savings achieved by cancelling the Astra and Sparrow programs and substituting these alternatives now in production would amount to roughly \$330,000,000 for a completed program of 100 aircraft.

Dollar Factor: The total cost to the Canadian Government of developing the Arrow aircraft and its associated elements up to the beginning of September has been \$303,000,000. To finish this development of the CF-105 and its components, including Astra and Sparrow, and to produce enough to have about 100 aircraft for squadron use would cost about another \$1,250,000,000 — approximately \$12,500,000 per usable aircraft. By substituting the alternative fire control system and missile for the Astra and Sparrow the cost could be reduced to about \$9,000,000 each.

The Government has had to make highly difficult decisions on the basis of the best judgment as to probabilities in matters of uncertainty and importance, and opinions of military and other experts. Insuring peace by the maintenance of an effective deterrent against aggression must clearly have priority over other considerations including cost but in working out a defence program regard must be had to the relative effectiveness and cost of various means of achieving the essential objective.

While Canada's role in the coming age of missiles is entirely a defensive one, it will clearly involve this country in considerable disruption from time to time in production as well as in changes of the role of the defence forces. The Government regrets the difficulties incident to such changes but finds them inescapable if regard is to be had to the changing needs which result from the rapid evolution in weapons.

Integration: It now seems evident that in the larger weapon systems now

required for air forces, Canadian work in the design, development and production of defence equipment will have to be closely integrated with the major programs of the United States. The U.S. Government recognizes this and they now are prepared to work out production-sharing arrangements with us. To accomplish effective integration of defence production resources of Canada and the United States will require time and continuing efforts in co-operation.

Canadians are proud of what the Canadian aircraft industry has accomplished for defence. The Arrow supersonic plane has already thrilled us with its performance, its promise and its proof of ability in design and technology. The Iroquois engine, too, is a fine technical achievement and its development has led to many industrial advances. Excellent scientific and technical teams had been created for these projects.

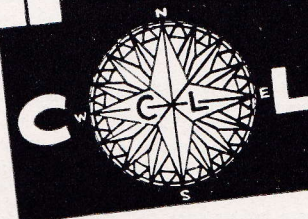
However, it will be recognized, I believe, that as the age of missiles appears certain to lead to a major reduction in the need for fighter aircraft, Canada cannot expect to support a large industry developing and producing aircraft solely for diminishing Canadian defence requirements.

So Sorry: The Government deeply regrets the unemployment that will be involved in the termination of the Astra and Sparrow projects and in the Avro plant at Malton. It is hoped that our defence industry will be able to share effectively with the U.S. industry in one part or another of the major programs in the air defence of the North American continent and thereby provide alternative employment in the field of missiles and electronics.

In common with Canadians, the Government recognizes the accomplishments and technical quality of the work done, but to continue vast expenditures on aircraft and equipment which military and other expert opinion does not support as the best way to achieve the defence essential to our security would not only be wasteful but unjustifiable.

It is regrettable that in Canada's contribution to a full and effective part in the air defence of the North American continent adaptation to changing techniques and the nature of potential threat to this continent makes necessary from time to time changes in the requirements of deterrent power.

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