

# The Industry



**PRODUCTION OF S2F-1 TRACKERS** for Italy and the Netherlands under the U.S. Mutual Assistance Program is now in progress at Grumman Aircraft Engineering Corp. Production is under a \$16 million contract, some of which is being subcontracted to Canadian firms under the production sharing agreement.

## 104 Program Subcontracts

Several important subcontracts have recently been awarded in connection with the CF-104 Starfighter program.

Orenda Engines Ltd., prime contractor for the 104's GE J79 turbojet powerplant, has placed subcontracts with York Gears Ltd., Toronto, for gear boxes valued at over \$2 million; with Renfrew Aircraft Ltd., Renfrew, Ont., for flame tubes and associated tooling, worth \$391,202; with Bristol Aero-Industries Ltd., Winnipeg Div., for air ducts and tooling, worth \$143,960; and with Lucas Rotax Ltd., Toronto for pumps and tooling worth \$794,538.

Canadair Ltd. has awarded a subcontract valued at \$2.6 million to Avro Aircraft Ltd. for manufacture of air ducts and scoops.

The awarding of the subcontracts, which were all based on competitive bids, was announced by Defence Production Minister O'Hurley.

Evidently Mr. O'Hurley is insisting that all announcements concerning the awarding of CF-104 subcontracts must come from his office, though this is normally the prerogative of the prime contractor concerned.

## More U. S. Army Caribou

With a firm order for seven additional Caribou from the U.S. Army, plus an undetermined-as-yet order for more in fiscal 1961, de Havilland Canada has reason to believe that its

STOL Caribou will eventually pay off.

Cause for this optimism is President Eisenhower's recently handed-down budget for 1961 which states in part: "Total Army aircraft procurements in 1961 will increase by more than 35% over 1960, including Mohawk turboprop, observation aircraft, the Caribou twin-engine transport, and the Iroquois utility helicopter."

The number of Caribou to be ordered by the U.S. Army has been estimated variously at from 20 to 50.

## CL-44's for Pakistan?

Canadair Ltd. reports that it is negotiating with the Pakistan Air Force for the sale of "three or more" CL-44 turboprop air-freighters. Canadair says that it knows nothing of European reports which have it that the deal would involve taking in 31 Bristol 170's.

## Avian 2/180 Progress

The three-seat Avian 2/180 Gyroplane being built by Avian Industries Ltd., Georgetown, Ont., (see *AIRCRAFT* December, 1959) has completed its taxi trials at the Kitchener-Waterloo Airport and has been returned to Georgetown. These trials, said a company spokesman, "were completely successful, and necessitated only one small modification to the nose wheel assembly."

Remainder of the ground running tests required for DoT certification are being carried out at the Georgetown plant. Some difficulty has been experienced with the servo-tab controlled rotor blade system, the rotor having gone out of track on occasion while on cyclic control. Although Avian has no intention of abandoning the unique system of rotor control, the company is presently manufacturing a secondary or "back-up" set of conventional rotor blades with which to complete certification trials if necessary.

Maiden flight of the unconventional 2/180 is now unofficially forecast for late March or early April. It is hoped that certification will be complete by early summer.

## CDC PHI for CF-104

Computing Devices of Canada Ltd., Ottawa, has been awarded a \$4 million contract to supply the RCAF's new CF-104G fighters with the CDC Position & Homing Indicator Mk. 5. The contract calls for more than 200 units. The PHI 5 system will be similar to that already in production for the West German Air Force.

Heart of the PHI 5 is a miniature analog computer which continuously computes the course and distance to any one of 12 pre-selected destinations. The pilot selects his desired destination by means of a rotary switch like a TV channel selector. The indicator then shows him the heading to fly to reach that destination and the distance to go in nautical miles. Total weight of the Mk. 5 PHI is less than 25 lbs.

## Marconi Dopplers Sell

Two more international airlines have in recent weeks purchased Canadian Marconi Doppler installations for their Boeing 707 jetliner fleets. They are Irish Airlines, which has ordered nine complete Doppler navigational systems; and VARIG, the South American airline, which has ordered an unspecified number.

The Canadian Marconi Co. Doppler equipment (type CMA-623) being supplied is the latest version produced to international standards.

## Production 540 First Flight

Early January saw the first flight of the No. 1 Canadair-built 540 turboprop transport, which is destined to join the RCAF's Air Transport Com-

mand. First flight on a production 540 was done by pilot G. T. Scotty McLean, of Canadair's engineering flight test.

The aircraft, powered by two Napier Elands, is very similar to the pre-production 540's with Convair 440 airframes which Canadair assembled last year from Convair-supplied components.

### Boeing Buys Vertol

The boards of directors of Boeing Airplane Co. and the Vertol Aircraft Corp. last month jointly announced approval of a plan for the acquisition of Vertol by Boeing.

The plan calls for the issuance of two shares of Boeing for three shares of Vertol. The acquisition will become effective March 31, if it is approved by the required percentage of shareholders and after other requirements are met.

Boeing has indicated that operations now conducted by Vertol will continue under the present management and location as the Vertol Aircraft Division of Boeing. Vertol's wholly-owned subsidiaries, Allied Research Associates Inc., Boston, Mass., and Canadian Vertol Aircraft Ltd., Arnprior, Ontario,

will become subsidiaries of Boeing and will continue as separate corporations under their present managements.

### British Merger

Vickers, English Electric and Bristol Aeroplane have decided to amalgamate. For this purpose, a new company will be formed which will have three wholly-owned subsidiaries: Vickers-Armstrongs (Aircraft) Ltd., English Electric Aviation Ltd., and Bristol Aircraft Ltd.

The shares of the joint company will be held in the following proportions: Vickers 40%; English Electric 40%; and Bristol 20%. The financial adjustments will involve no new issue of share capital. Bristol's helicopter interests will not be included in the merger. Financial responsibility for types of aircraft and missiles already in production will remain with the appropriate principal company.

### Production Sharing Opportunity

The General Electric Co. of Schenectady, N.Y., has invited the Canadian electronics industry to share in GE defence sub-contracting ranging up to some \$350 million per year. This

figure represents what GE is presently sub-contracting to other manufacturers out of its total defence production which runs approximately \$1.4 billion annually.

The invitation was made at a two-day industrial seminar held recently at Canadian General Electric's headquarters at Toronto. With the assistance of the DDP in Ottawa, the giant U.S. electronics firm invited 60 potential Canadian sub-contractors from this country's electronic and electrical manufacturing industry to attend the seminar. The 100 or so Canadian representatives were shown components and blue prints of the several thousand components that GE buys on sub-contract.

### Alcan Contract

A production-sharing contract for aluminum blade forgings has been awarded to the Aluminum Co. of Canada by Sikorsky Aircraft. It is the first in what is expected to be a series of such contracts coming to Canada from the Stratford, Conn., helicopter firm. The contract award was announced by Canadian Pratt & Whitney Aircraft Co. Ltd., the Canadian asso-

## BENDIX SR RACK AND PANEL CONNECTOR

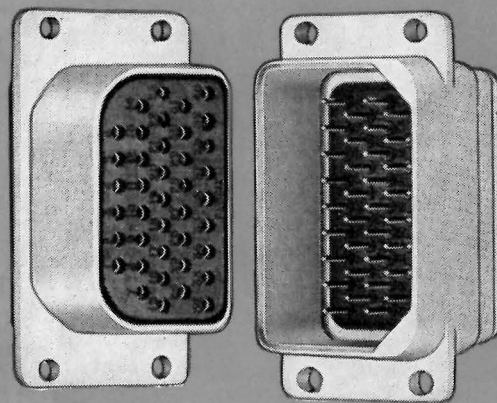
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Adding to the efficiency of this rack and panel connector is the performance-proven Bendix "clip-type" closed entry socket. Insert patterns are available to mate with existing equipment in the field.

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ciate company of Sikorsky in the United Aircraft Corp. family.

The contract was awarded on a competitive basis, with deliveries scheduled during the first three quarters of 1960. The blades are manufactured to close tolerance, requiring a minimum amount of machining before installation in the aircraft.

Impressed by the potential in this country for sub-contract work, Sikorsky has asked for quotations from 35 Canadian plants engaged in metal fabrication, electronics and electrical work. The Alcan bid is the first of these to be processed and an order placed.

## Bendix PB-20 for CL-44

Bendix PB-20 flight control system will be incorporated in the fleets of Canadair CL-44 turboprop freighters for the Seaboard & Western and Flying Tiger lines, according to Aviation Electric Ltd., Bendix affiliate in Canada. Seaboard has ordered five, and Flying Tiger ten of the swingtail cargo carriers. Deliveries are scheduled to start in the early autumn of 1960.

## A. V. Roe Canada in L.A.

Toward the establishment of closer cooperation of the defence industries of Canada and the U.S. through the production-sharing program, the A. V. Roe Canada group of companies has established an office in the U.S. for the convenience of the U.S. armed forces and industry.

This office, located at 8921 Sepulveda Blvd., Los Angeles 45, Calif., will be the representative U.S. centre for the following A. V. Roe Canada companies: Avro Aircraft Ltd., Orenda Engines Ltd., Canadian Applied Research Ltd., and Canadian Steel Improvement Ltd.

Heading the office is William R. Stephens who, as technical sales manager, U.S., brings 18 years of engineering education, military service and industrial experience to his assignment. His previous association with the A. V. Roe Canada group was that of military sales manager of Avro Aircraft Ltd.

## Super Hercules Scuttled?

The Allison Division of General Motors has announced receipt of a contract cancellation from the USAF for development of the T61 turboprop



AIRCO DH-121: Now nearing its final form in the mock-up of the Airco D.H.-121 at Hatfield, England, the cockpit arrangement shown above has been evolved by Airco, in close consultation with British European Airways to meet the requirements for high-speed jetliner operation in the 1960's.

engine and its associated Aeroproducts propeller. The T61 was being developed for use in the Lockheed Super Hercules which had been a prominent competitor for Canadair's CL-44 in the turboprop air freighter market. Both Slick Airways and Pan American Airlines had at one time signed contracts for the Super Hercules but these were valid only if the USAF were to continue funding the development of the aircraft and the engine.

The development contract for the aircraft has not been renewed, however, and the cancellation of the T61 would now apparently write finis to the whole program.

## Contracts Awarded

Contractors awarded business in excess of \$10,000 by the Department of Defence Production during the period December 1-31, 1959, include the following. The list does not include orders placed by the Department outside Canada, or with other agencies or increases in orders placed earlier—nor do orders classified as secret appear here.

Names appearing in bold face are current AIRCRAFT advertisers.

**Aviation Electric Ltd.**, Montreal, \$22,968 for aircraft oxygen equipment.

**Bancroft Industries Ltd.**, Montreal, \$15,533 for aircraft oxygen equipment.

**Bristol Aero Industries Ltd.**, Winnipeg, \$22,310 for aircraft exhaust unit spares during year ending March 31/60.

**Canadair Ltd.**, Montreal, \$460,641 for technical publications.

**Canadair Ltd.**, Montreal, \$400,478 for aircraft components.

**Canadair Ltd.**, Montreal, \$19,350 for repair & overhaul of aircraft mobile training units during year ending March 31/60.

**Canadian Aviation Electronics Ltd.**, Montreal, \$20,676 for spares for armament systems test equipment.

**Canadian Flight Equipment (Cobourg) Ltd.**, Cobourg, Ont., \$53,448 for components for aircraft ejection seats.

**Computing Devices of Canada Ltd.**, Ottawa, \$82,157 for electronic equipment.

**De Havilland Aircraft of Canada Ltd.**, Toronto, \$2,990,681 for aircraft.

**De Havilland Aircraft of Canada Ltd.**, Toronto, \$11,230 for airframe components.

**Fairey Aviation Co. of Canada Ltd.**, Dartmouth, N.S., \$105,544 for installation of electronic equipment in aircraft.

**Imperial Oil Ltd.**, Ottawa, \$956,103 for aviation gasoline during year ending March 31/61.

**Imperial Oil Ltd.**, Ottawa, \$28,525 for engine oil during year ending March 31/61.

**Imperial Oil Ltd.**, Ottawa, \$40,516 for aviation gasoline during year ending March 31/61.

**Mussens Canada Ltd.**, Montreal, \$50,350 for aircraft servicing equipment.

**Raytheon Canada Ltd.**, Ottawa, \$88,966 for electronic tubes.

**Technical Enterprises Ltd.**, Malton, Ont., \$11,228 for electronic components.

**Aviation Electric Ltd.**, Montreal, \$205,948 for aircraft instruments.

**Aviation Electric Ltd.**, Montreal, \$35,042 for wind indicating equipment.

**Aviation Electric Ltd.**, Montreal, \$33,426 for aircraft components.

**Bristol Aero Industries Ltd.**, Winnipeg, Man., \$609,364 for repair and overhaul of aircraft during year ending March 31/60.

**British American Oil Co. Ltd.**, Toronto, \$368,698 for aviation gasoline during year ending March 31/61.

**Canadair Ltd.**, Montreal, \$1,216,846 for technical publications.

**Canadian Aviation Electronics Ltd.**, Montreal, \$128,227 for mobile test equipment laboratory.

**Collins Radio Co. of Canada Ltd.**, Toronto, \$31,511 for technical services.

**Collins Radio of Canada Ltd.**, Toronto, \$84,654 for electronic components.

**Computing Devices of Canada Ltd.**, Ottawa, \$98,447 for electronic equipment.

**Computing Devices of Canada Ltd.**, Ottawa, \$21,207 for rental of radio navigation equipment.

**De Havilland Aircraft of Canada Ltd.**, Toronto, \$35,000 for technical services.

**Dowty Equipment of Canada Ltd.**, Ajax, Ont., \$20,823 for research contract.

**Edo (Canada) Ltd.**, Cornwall, Ont., \$45,000 for technical services.

**Honeywell Controls Ltd.**, Toronto, \$37,368 for aircraft components.

**Imperial Oil Ltd.**, Ottawa, \$3,870,612 for aviation gasoline during year ending March 31/61.

**Walter Kidde & Co. of Canada Ltd.**, Montreal, \$28,228 for aircraft oxygen equipment.

**Rolls-Royce of Canada Ltd.**, Montreal, \$38,165 for aero engine components.

**Sperry Gyroscope Co. of Canada Ltd.**, Montreal, \$267,226 for electronic equipment.

**Technical Enterprises Ltd.**, Malton, Ont., \$10,828 for antenna supports.