

FIRST CANADAIR CL-44 turboprop transport on the production line nears completion with rollout scheduled for August. In addition to 12 for RCAF, 15 swing-tail CL-44D-4's have been ordered by two U.S. cargo airlines.

F-104G for Air Division

The selection of the Lockheed F-104G as a replacement for the F-86E Sabres in service with the RCAF's Air Division in Europe, and the conversion of the NATO unit's role to one of ground attack, were announced July 2 by Defence Minister Pearkes.

Eight squadrons of aircraft are involved and usually about 25 aircraft are required to keep a single fighter-type squadron fully operational at all times. Thus a minimum requirement of 200 aircraft is indicated, plus sufficient extras to equip an operational training unit and for a variety of other incidental purposes (e.g., for flight test work by Central Experimental & Proving Establishment). This could amount to an additional 50 aircraft. Cost of production of 200 F-104G's has been estimated at \$400 million.

Both the airframe and the General Electric J-79 engine will be produced in Canada. It appears near certain that Orenda Engines Ltd. will get the contract to build the engine but the airframe prime contractor is to be chosen by tender. Avro Aircraft Ltd., The de Havilland Aircraft of Canada Ltd. and Canadair Ltd. are all being invited to bid.

It is several years since the Mach 2 F-104 was first mentioned as a leading candidate as a Sabre replacement, yet oddly enough it was rarely mentioned during the recent spate of rumors that followed reports that the Government was about to make a decision on the fate of the Air Division.

Originally designed as a high-altitude, high-speed dayfighter interceptor, the F-104 is the simultaneous holder of both the world's speed and altitude records. It is understood that the Canadian version will be the first of the series intended purely for ground attack purposes. For all its merits as an interceptor, some authorities are questioning its suitability in the low level role. In this capacity, the ability to climb high and fast is of little value in carrying out an attack (though it could be useful in getting clear after an attack), and the Mach 2 speed at low level is quite literally "blinding".

Gordon Resigns

Crawford Gordon has resigned as president and general manager of A. V. Roe Canada Ltd., parent company of Avro Aircraft Ltd., Orenda Engines Ltd., Canadian Car Co. Ltd., Dominion Steel & Coal Corp. *et al.* Announcement of the resignation was made in a statement signed by Mr. Gordon and by Sir Roy Dobson, chairman of the board of A. V. Roe Canada. Mr. Gordon gave as the reason for his resignation the fact that "there was a disagreement which we were unable to reconcile."

The removal of Mr. Gordon is being widely interpreted as the price A. V. Roe Canada had to pay to get back into the good graces of Prime Minister Diefenbaker, with whom Mr. Gordon had some violent clashes over the cancellation of the Arrow. Prior to the cancellation of the Arrow, Mr. Diefen-

baker pointedly indicated that he resented the "lobbying" tactics to which he claimed he was being subjected.

No successor has been named as president of the A. V. Roe company, and the duties of the office are to be handled by Sir Roy until someone is appointed.

RCAF Albatross

Defence Production Minister O'Hurley on June 15 confirmed the AIRCRAFT report that the Government will buy ten Grumman SA-16B Albatross planes for the RCAF. Cost is estimated at \$14 million.

Mr. O'Hurley said the planes are urgently needed for RCAF search and rescue and also can be used for northern supply.

Orders worth approximately 40% of the cost of the planes will be placed with Canadian manufacturers by Grumman Aircraft Engineering Corp. The engine, the Wright R1820-82, will be supplied by Canadian Pratt & Whitney of Longueuil, Que. CP & W now manufactures this engine for the de Havilland Canada-built CS2F and it can be accommodated in the Albatross with a small engineering change.

Other items made in Canada will be incorporated in the Albatross and part of the airframe is being sub-contracted to Bristol Aero-Industries Ltd. of Winnipeg.

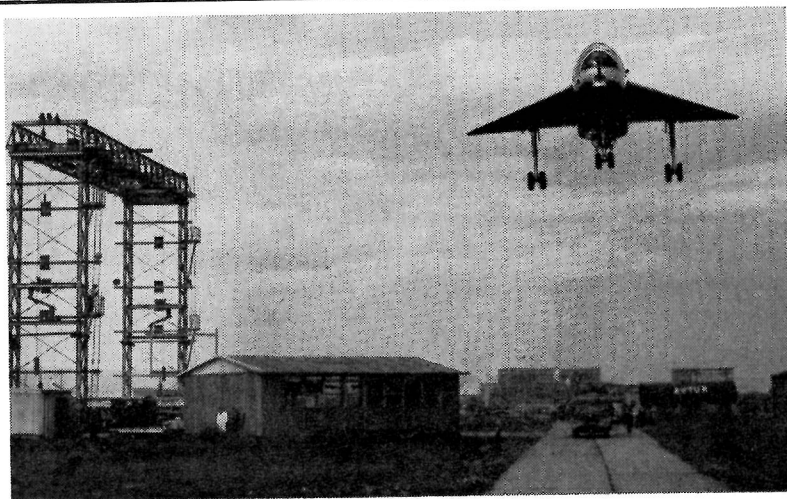
Grumman has agreed to let a sub-contract to Enamel & Heating Products Ltd., Amherst, N.S., for \$1,000,000 worth of parts for the USN S2F Trackers which Grumman is building.

Grumman has also agreed to consider letting additional sub-contracts in Canada "and I am hopeful that these additional orders will amount to a substantial sum over the next few years," Mr. O'Hurley said.

Jarry/Simmonds Link

A licencing agreement has been signed between Jarry Hydraulics Ltd. of Montreal and Simmonds Aerocessories Inc. of Tarrytown, N.Y., giving the U.S. firm the right to produce certain Jarry-designed high pressure hydraulic equipment in the U.S.

For the time being, it is expected that Simmonds will act mainly as field service engineers for the Canadian-designed and manufactured equip-



SHORT SC.1 MAKES LONGEST FLIGHT: The British designed and built Short SC.1 VTOL research aircraft last month made its longest free hovering flight to date. After taking off in gusty weather from the platform of its test gantry at Belfast, it flew steadily forward for one quarter of a mile over a concrete road before landing on a small platform on the runway. Time logged: 6 mins.

ment. Production for any U.S. orders obtained by Simmonds will be sub-contracted to Jarry in Montreal. Eventually, Simmonds will undertake some assembly and production testing in its plant at Vergennes, Vermont.

Avrocar Details

The U.S. Army has released some meagre details on the saucer shaped VTOL research vehicle designed by Avro Aircraft Ltd. An Army spokesman has told *AIRCRAFT* that:

"The Avrocar is designed to explore the potential of a new scientific and technical approach to vertical take-off and landings. This research vehicle will operate within the ground cushion, riding on air, but after obtaining minimum forward velocity will function as an aircraft supported by aerodynamic forces generated by its forward motion.

"The Avrocar will have a hovering capability as do other vehicles which make use of the ground cushion phenomenon. However, it is anticipated that it will have higher performance than other types employing this principle."

Aside from admitting that the Avrocar is a disc shaped vehicle, the spokesman said no more of its configuration. Details pertaining to the specific configuration and technical data are still classified material. However, it is known that the Avrocar is in the advanced stages of development and that ground testing is scheduled to begin in the near future.

Safe Flight for CL-44

Railway & Power Engineering Corp. has announced that production orders have been received from Canadair Ltd. for Safe Flight speed control and precision stall warning equipment for the RCAF's CL-44 transport aircraft. Speed Control provides an indication of the ratio of lift being used to the maximum lift available and enables the pilot to make landing approaches at the optimum speed. Stall warning is accomplished, at a predetermined safe margin above stall, by means of a control shaker.

The same type of equipment has been specified for the CL-28; in the case of the Argus the instrument will also provide an indication of the optimum speed for patrol cruise.

Another Safe flight system known as SCAT (Speed Control After Take-off), has been installed on the Canadair 540 demonstrator. SCAT uses the same components as Speed Control plus a gyro levelled linear accelerometer so that accurate and timely information of lift ratio and forward acceleration is given to the pilot to facilitate a safe and best performance take-off.

New Division at Honeywell

A new Military Products & Systems Engineering Division has been announced by Honeywell Controls Ltd., Toronto. The new division incorporates the scope and skills of the former Aeronautical Division. Product range

of the new division extends from ordnance products through inertial navigation to missile equipment. It also incorporates the company's systems engineering group.

General manager of the new division is J. H. Baldwin, who held the same post in the Aero Division. T. S. Agnew is the assistant manager and O. M. Cepella is manager of service engineering for Military Products.

Mr. Cepella will continue to supervise liaison and services on all military products and military systems of the company.

Side Orders

Benefiting handsomely from the recent order for 15 CL-44's placed with Canadair by the Flying Tigers and Seaboard & Western, are two British manufacturers. Rolls-Royce Ltd. will be called on to supply Tyne turboprop engines with a value of about \$13,000,000, while the de Havilland Propellers Ltd. share of the pie will be worth nearly \$3,000,000, for propellers.

Aerotec Merger

Aerotec Industries Inc. is the name of the new corporation resulting from the merger of The Aerotec Corp., the Prat-Daniel Corp., The Aerothorn Corp. and The Thermix Corp.

T. C. Chown Ltd. has been appointed Canadian affiliate of the newly-formed Aerotec Industries, which has headquarters in Greenwich, Conn. The Canadian company will function as project engineers and will fabricate in Canadian plants the three main product groups of the new corporation. These include aircraft and missile controls and airplane seats.

Australian Contract for CGE

Canadian General Electric Co. has been awarded an Australian defence contract valued at more than \$250,000 for the production of height-finding radar equipment. The equipment, to be used for Australia's radar defence lines, is similar to that used on Canada's Pinetree Line.

A CGE spokesman said that while most of the equipment will be built at the company's Royce Works in Toronto, some will be sub-contracted to other Canadian suppliers. The work will be done by the company's Electronic Equipment & Tube Depart-

ment, which employs some 2000 persons in its combined electronic equipment and components operations.

The contract is the second to be received by CGE this year for this type of equipment. The USAF placed a \$9 million order for height-finding radar equipment last February; similar equipment was produced previously for the RCAF. Shipments to Australia are expected to begin in 1960.

Bendix Reps in West

Computing Devices of Canada Ltd. has announced the appointment of the Winnipeg division of Bristol Aero-Industries Ltd. as exclusive sales representatives in Manitoba, Saskatchewan and Alberta for Bendix airborne electronic equipment.

New Lift Thrust Engine

Brief details of a new Bristol Siddeley project, the BE.53 lift thrust engine, were revealed last month. A ducted fan, the BE.53 can provide both direct lift and thrust for forward flight. The new engine's extremely high thrust/weight ratio, said to be

higher than that of any existing turbojet, makes possible the design of a high speed aircraft with both VTOL and STOL characteristics.

A ducted fan engine such as the BE.53, which has a high bypass ratio, is capable of better specific fuel consumption and better take-off perform-

ance than a pure jet engine, without suffering from the high speed limitations of the propeller turbine. In the BE.53, the gases are discharged through outlets to give either lift or forward thrust.

Contracts Awarded

Contractors awarded business in excess of \$10,000 by the Department of Defence Production during the period April 16—May 15, 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.

Aircraft Appliances & Equipment Ltd., Toronto, \$88,150, for repair & overhaul of aircraft components during year ending March 31/60.

Aircraft Appliances & Equipment Ltd., Toronto, \$20,000 for spares for aeronautical instruments during year ending March 31/60.

Aviation Electric Ltd., Montreal, \$37,500 for aircraft components during two years ending March 31/61.

Aviation Electric Ltd., Montreal, \$160,225 for repair & overhaul of aeronautical instruments and electrical equipment.

Aviation Electric Ltd., Montreal, \$2,145,000 for repair & overhaul of aircraft instruments.

Avro Aircraft Ltd., Toronto, \$100,000 for aircraft retrofit modification kits.

Bancroft Industries Ltd., Montreal, \$12,500 for aircraft components during two years ending March 31/61.

Bourne & Weir Ltd., Vancouver, \$27,000 for retreading of aircraft tires.

Bristol Aero-Industries Ltd., Montreal, \$3,341,000 for repair & overhaul of aero engines, special investigations and technical studies during year ending March 31/60.

Bristol Aero-Industries Ltd., Vancouver, \$402,000 for repair & overhaul of aero engines, special investigations and technical studies during year ending March 31/60.

Bristol Aero-Industries Ltd., Winnipeg, \$12,500 for airframe components during two years ending March 31/61.

Bristol Aero-Industries Ltd., Winnipeg, \$920,163 for repair & overhaul of aircraft.

Canadair Ltd., Montreal, \$150,000 for airframe spares during year ending March 31/60.

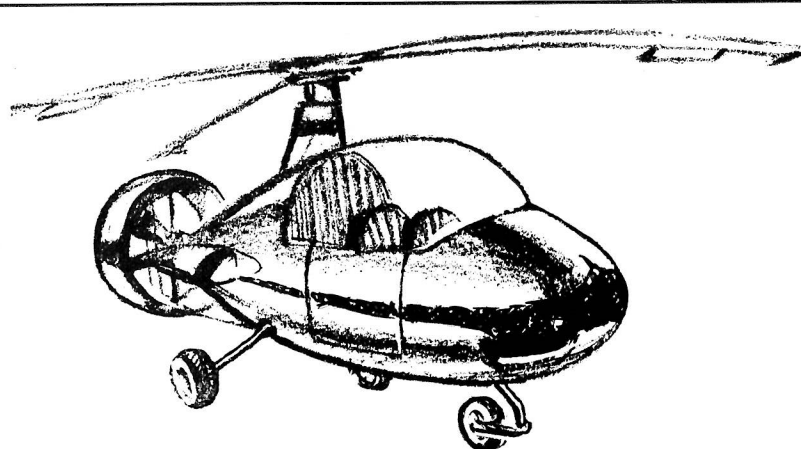
Canadair Ltd., Montreal, \$55,000 for airframe components during year ending March 31/60.

Canadair Ltd., Montreal, \$247,500 for airframe components during two years ending March 31/61.

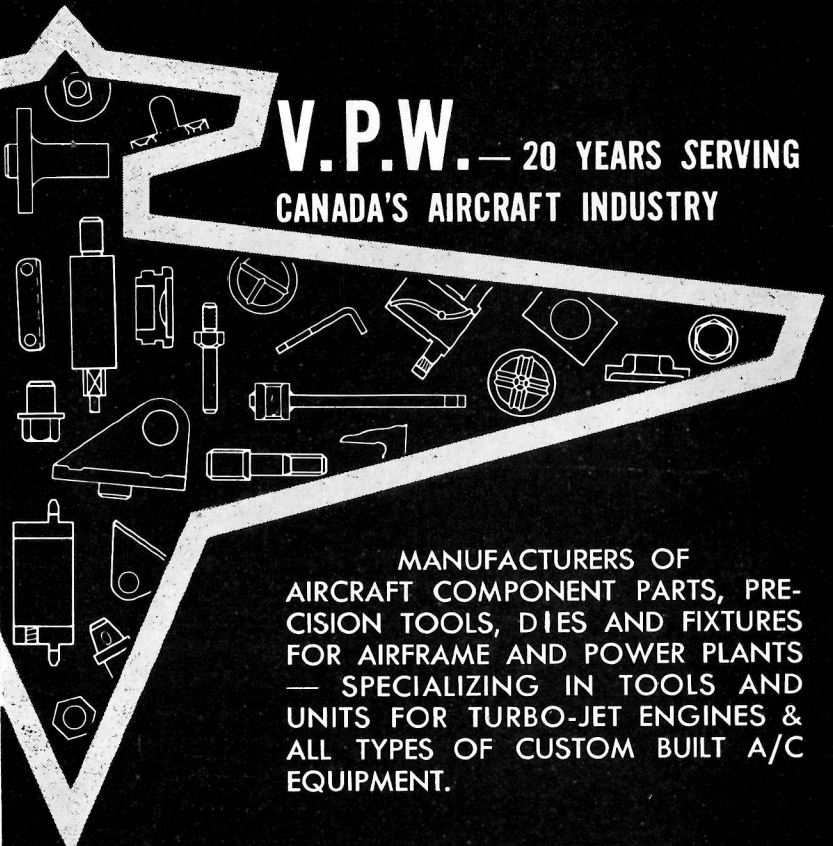
Canadian Aviation Electronics Ltd., Montreal, \$100,000 for maintenance repair & overhaul of operational flight and tactics trainers during year ending March 31/60.

Canadian Car Co. Ltd., Fort William, Ont., \$12,500 for airframe components during two years ending March 31/61.

Canadian Pratt & Whitney Aircraft Co.



AVIAN 2/180 GYROPLANE: Designed to sell at approximately \$8,000, Avian Industries Ltd.'s 2/180 will be as easy to fly as a lightplane, cheaper to operate than a car, according to the Georgetown, Ont., designers. Gyroplane will have a max cruise speed of 150; range 450 miles; all-up wgt. of 1,600 lb. (empty 1,000 lb.). Prototype is expected to fly around Sept. 30, 1959. Initial deliveries of fully certified aircraft will begin in March, 1960.



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Ltd., Longueuil, Que., \$1,077,000 for repair & overhaul of aero engine components, special investigations and technical studies during year ending March 31/60.

Canadian Pratt & Whitney Aircraft Co. Ltd., Longueuil, Que., \$85,000 for repair & overhaul of aero engines, special investigations and technical studies during year ending March 31/60.

Canadian Pratt & Whitney Aircraft Co. Ltd., Longueuil, Que., \$17,500 for aero engine components during two years ending March 31/61.

Carriere & MacFeeters Ltd., Toronto, \$616,000 for repair & overhaul of aircraft, miscellaneous electrical and ancillary equipment.

Computing Devices of Canada Ltd., Ottawa, \$25,000 for repair & overhaul of aircraft instruments.

Computing Devices of Canada Ltd., Ottawa, \$14,500 for technical services during year ending March 31/60.

De Havilland Aircraft of Canada Ltd., Toronto, \$73,640 for repair & overhaul of aero engines, special investigations and technical studies during year ending March 31/60.

De Havilland Aircraft of Canada Ltd., Toronto, \$115,606, for airframe components.

Dominion Rubber Co. Ltd., Montreal, \$45,475 for repair & overhaul of aircraft components.

Electronic Materials International Ltd., Ottawa, \$382,000 for repair & overhaul of ground and airborne electronic equipment during year ending March 31/60.

Genaire Ltd., St. Catharines, Ont., \$68,496, for modification kits for aircraft servicing equipment.

Hancock Aircraft Division Ltd., Toronto, \$66,000 for retreading of aircraft tires during year ending March 31/60.

Imperial Oil Ltd., Ottawa, \$37,311 for aviation gasoline during year ending March 31/60.

Ernst Leitz Canada Ltd., Midland, Ont., \$60,000 for repair & overhaul of aerial cameras and accessories, special investigations and technical studies during year ending March 31/60.

Lucas-Rotax Ltd., Montreal, \$1,500,000 for repair & overhaul of airframe components, aero engine components and electrical equipment.

Lucas-Rotax Ltd., Montreal, \$25,000 for repair & overhaul of aeronautical instrument components.

Northwest Industries Ltd., Edmonton, Alta., \$296,000 for repair & overhaul of aircraft instruments.

Okanagan Helicopters Ltd., Vancouver, \$1,891,200, for maintenance of helicopters during year ending March 31/60.

Orenda Engines Ltd., Toronto, \$10,000 for repair & overhaul of aero engine components during year ending March 31/60.

Prairie Equipment & Radiators Ltd., Winnipeg, Man., \$40,000 for repair & overhaul of aircraft cooling materiel.

Railway & Power Engineering Corp. Ltd., Montreal, \$12,500 for aircraft components during two years ending March 31/61.

Renfrew Aircraft & Engineering Co. Ltd., Renfrew, Ont., \$75,000 for repair & overhaul of aero engine components during year ending March 31/60.

Rolls-Royce of Canada Ltd., Montreal, \$10,000 for repair & overhaul of aero engines and aero engine components during year ending March 31/60.

Sampson-Matthews Ltd., Toronto, \$12,000 for aircraft insignia.

Servomechanisms (Canada) Ltd., Toronto, \$17,825 for repair & overhaul of ground and airborne electronic equipment during year ending March 31/60.

Sperry Gyroscope Ottawa Ltd., Ottawa, \$700,000 for repair & overhaul of aircraft instruments.

Superior Airways Ltd., Fort William, Ont., \$42,766 for charter of aircraft.

York Gears Ltd., Toronto, \$170,000 for repair & overhaul of aircraft components.

Aircraft Appliances & Equipment Ltd., Toronto, \$43,490 for aero engine components.

Aircraft Appliances & Equipment Ltd., Toronto, \$200,000 for repair & overhaul of aircraft accessories during year ending March 31/60.

Aircraft Appliances & Equipment Ltd., Toronto, \$36,000 for repair & overhaul of aeronautical instruments during year ending March 31/60.

Aircraft Welding & Sheet Metals Co. Ltd., Ville St. Michel, Que., \$25,000 for repair & overhaul of aero engine containers during year ending March 31/60.

Aviation Electric Ltd., Montreal, \$176,189 for components for aircraft instruments.

Aviation Electric Ltd., Montreal, \$72,585 for aircraft oxygen equipment.

Bancroft Industries Ltd., Montreal, \$1,052,000 for repair & overhaul of aero engine components during year ending May 31/60.

Bristol Aero-Industries Ltd., Montreal, \$1,-

052,000 for repair & overhaul of aero engine components during year ending May 31/60.

Bristol Aero-Industries Ltd., Vancouver, \$97,000 for repair & overhaul of aircraft propellers during year ending March 31/60.

British American Oil Co. Ltd., Toronto, \$72,470 for aviation gasoline during year ending March 31/60.

Canadian Applied Research Ltd., Toronto, \$99,750 for repair & overhaul of aeronautical instruments and electrical equipment.

Canadian Applied Research Ltd., Toronto, \$991,350 for repair & overhaul of aircraft instruments.

Canadian Aviation Electronics Ltd., Montreal, \$194,700 for aircraft armament equipment.

Canadian Aviation Electronics Ltd., Montreal, \$61,218 for electronic test equipment.

Canadian Aviation Electronics Ltd., Montreal, \$105,045 for technical services during year ending March 31/60.

Canadian Pratt & Whitney Aircraft Co. Ltd., Longueuil, Que., \$50,000 for aircraft instruments, airframe and aero engine components and engineering change kits during two years ending March 31/61.

Canadian Pratt & Whitney Aircraft Co. Ltd., Longueuil, Que., \$10,000 for helicopter airframe components during two years ending March 31/61.

Canadian Pratt & Whitney Aircraft Co. Ltd., Longueuil, Que., \$532,000 for repair & overhaul of aero engines, special investigations and technical studies during year ending March 31/60.

Computing Devices of Canada Ltd., Ottawa, \$15,915 for technical services during year ending March 31/60.

De Havilland Aircraft of Canada Ltd., Toronto, \$25,000 for airframe components during year ending March 31/60.

Dowty Equipment of Canada Ltd., Ajax, Ont., \$691,000 for repair & overhaul of aircraft components during year ending March 31/60.

Fairey Aviation Co. of Canada Ltd., Dartmouth, N.S., \$222,116 for inspection of aircraft.

Godfrey Engineering Co. Ltd., Montreal, \$48,225 for repair & overhaul of airframe components during year ending March 31/60.

Godfrey Engineering Co. Ltd., Montreal, \$355,000 for repair & overhaul of aircraft components during year ending March 31/60.

Goodyear Tire & Rubber Co. of Canada Ltd., Toronto, \$23,122 for aircraft components.

Harwell Co. Ltd., Montreal, \$14,877 for aircraft armament equipment.

Heatex Ltd., Montreal, \$150,000 for repair & overhaul of aircraft cooling material during year ending March 31/60.

Heroux Machine Parts Ltd., Longueuil, Que., \$483,000 for repair & overhaul of aircraft hydraulic material during year ending March 31/60.

Laurie & Lamb Ltd., Montreal, \$63,128 for aircraft servicing equipment.

Leavens Bros. Ltd., Toronto, \$14,460 for electronic equipment.

Northwest Industries Ltd., Edmonton, \$100,000 for aircraft mobile repair parties.

Redifon Canada Ltd., Montreal, \$41,664 for maintenance, repair & overhaul of operational flight and tactics trainer.

Spartan Air Service Ltd., Ottawa, \$1,438,722, for maintenance, repair & overhaul of helicopters during two years ending March 31/61.

Spartan of Canada Ltd., London, Ont., \$1,247,003 for sonobuoy equipment.

Standard Aero Engine Ltd., Winnipeg, Man., \$29,250 for repair & overhaul of aero engines, special investigations and technical studies during year ending March 31/60.

Standard Aero Engine Ltd., Winnipeg, Man., \$15,000 for repair & overhaul of aero engines and aero engine components, special investigations and technical studies during year ending March 31/60.

Stark Electronic Instrument Ltd., Ajax, Ont., \$60,000 for repair & overhaul of ground and airborne electronic material during year ending March 31/60.

Winnett Boyd Ltd., Toronto, \$15,450 for aircraft components.

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